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| 09/756,792      | 01/10/2001  | Seiji Umemoto        | Q62563              | 6553             |

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EXAMINER

AMARI, ALESSANDRO V

ART UNIT PAPER NUMBER

2872

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/756,792

Applicant(s)

UMEMOTO ET AL.

Examiner

Alessandro V. Amari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-29 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☒ Claim(s) 2 and 6-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Response to Appeal Brief**

1. In view of the appeal brief filed on 27 May 2003, PROSECUTION IS HEREBY REOPENED. A new ground of rejection as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al U.S. Patent 5,828,488 in view of Sanelle et al U.S. Patent 6,181,394.

In regard to claim 1, Ouderkirk et al teaches (see Figure 13) an optical path changing polarizer comprising a polarizer (116) and a repetitive prismatic structure

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(113) provided on the other side of said polarizer, said repetitive prismatic structure including optical path changing slopes aligned in a substantially constant direction so as to be inclined at an inclination angle in a range of from 35 to 48 degrees with respect to a plane of said polarizer as shown in Figure 13.

However, Ouderkirk et al does not teach an adhesive layer disposed on one side of said polarizer, said adhesive layer having a refractive index different by 0.1 or less from a refractive index of a surface layer of said one side of said polarizer.

Sanelle et al does teach an adhesive layer disposed on one side of said polarizer, said adhesive layer having a refractive index different by 0.1 or less from a refractive index of a surface layer of said one side of said polarizer as described in column 6, lines 24-34.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an adhesive layer as taught by Sanelle et al in the polarizer of Ouderkirk et al in order to eliminate reflection of light off the various elements of the display and improve brightness of the display.

Regarding claim 3, Ouderkirk et al teaches that an inclination angle of each of said optical path changing slopes with respect to said polarizer plane is in a range of from 38 to 45 degrees as shown in Figure 13.

Regarding claim 4, Ouderkirk et al teaches that said optical path changing slopes are formed into a structure of grooves each substantially shaped like an isosceles triangle or any other triangle in section as shown in Figure 13.

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4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al U.S. Patent 5,828,488 in view of Sanelle et al U.S. Patent 6,181,394 further in view of Hira U.S. Patent U.S. Patent 5,961,198.

Regarding claim 5, the Ouderkirk et al in view of Sanelle teaches the invention as set forth above but does not teach optical path changing slopes are formed into a structure of grooves or protrusions each substantially shaped like a tetragon or a pentagon in section. Hira et al. does teach optical path changing slopes are formed into a structure of grooves or protrusions each substantially shaped like a tetragon or a pentagon in section as shown in Figures 20(a), 20(c) and 21(a)-21(c). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ouderkirk et al in view of Sanelle utilizing the shapes as taught by Hira et al. in order to increase luminance.

***Allowable Subject Matter***

5. Claims 13-29 are allowed.

6. Claims 2 and 6-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 2 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest "include two or more kinds of slopes in which one kind of slopes aligned in a substantially constant direction serve as a reference while another kind of slopes aligned in another substantially constant direction are opposite to said one kind of slopes" as set forth in the claimed combination.

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Claim 6 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest “polarizer plane has a first projected area, on said polarizer plane, not smaller than 10 times as large as a second projected area” as set forth in the claimed combination.

Claim 7 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest “wherein each of said flat surfaces has a width of not smaller than 10 times as large as the width of each of said optical path changing slopes” as set forth in the claimed combination.

Claim 8 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest “the length of each of said discontinuous grooves is not smaller than 5 times as large as the depth of each of said grooves” as set forth in the claimed combination.

Claim 9 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, that “said prismatic structure is formed so as to be added to or integrated with a transparent protective layer of said polarizer” as set forth in the claimed combination.

Claim 10 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, “further comprising a reflection layer disposed closely on a surface on which said prismatic structure is formed” as set forth in the claimed combination.

Claim 11 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, “said optical path changing slopes have ridgelines

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parallel to or inclined within-an angle range of  $\pm 30$  degrees with respect to one side of said polarizer” as set forth in the claimed combination.

Claim 12 is allowable over the prior art for at least the reason that the prior art fails to each or reasonably suggest, that “said adhesive layer is of a light diffusion type” as set forth in the claimed combination.

Claim 13 is allowable over the prior art for at least the reason that the prior art fails to each or reasonably suggest, that “each of respective refractive indexes of said adhesive layer and a material for forming said optical path changing slopes is not lower than a refractive index of said polarizing element or said transparent protective layer” as set forth in the claimed combination. Claims 14-29 are also allowable based upon their dependency on claim 13.

The prior art for record, Ouderkirk et al, Sanelle et al and Hira et al. teach an optical path changing polarizer comprising a polarizer along with a transparent protective layer, an adhesive layer, and repetitive prismatic structures but does not teach the particular dimensional characteristics of the slopes or grooves or transparent protective layers or adhesive layers or refractive indices thereof and no motivation or teaching is present to modify this difference as derived.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (703) 306-0533. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ava *ava*  
August 5, 2003

  
MARK A. ROBINSON  
PRIMARY EXAMINER